

# GREEN MATTERS

A newsletter from the Alberta Environmentally Sustainable Agriculture Council

## Protecting Biodiversity: Complex & Critical

### From AESA Council's Chair

*By John Kolk,  
Poultry Industry Council,*



Courtesy of Ducks Unlimited Canada

As a kid growing up on the farm, some of my fondest early memories are finding a duck's nest by the irrigation ditch, a coyote den in the willows behind the pond, pheasants and partridge in the tall grass in the fall, and owls in an abandoned house. Today, my wife and I enjoy kayaking in a local wetland to relax and get that thrill of discovery when we find a group of young ducks paddling for safety as their mother frantically tries to draw our attention.

As a youngster, I just accepted that these creatures were part of living in the country and expected they would always be there. Over the last 20 years, I've started to notice that we didn't see as many random sightings of local wildlife. A bit of contemplation resulted in the discovery that the willows were no longer behind the pond, the irrigation ditch had been filled in, the tall grass was grazed or cut, and the abandoned house and trees had been levelled.

Looking around the Alberta landscape we all love, we can see a lot of changes. Roads, houses, oilfield activity, forestry, recreational pursuits, foreign plants and animals, and farming practices all impact the space that our native plants and animals need. A multitude of decisions, of low or moderate impact individually, when added up result in significant changes. Most Albertans accept that economic development and other human activities have a legitimate role in our society and, to a point, tolerate the tradeoffs of those activities. But we also recognize the need to protect our abundant natural capital for future Albertans and for its own intrinsic value.

Our natural capital is made up of land, water, air, and plant and animal life. We have taken important steps in assessing and protecting the health of our soil, water and air resources. But assessing and protecting biodiversity is still in its infancy. That is partly because of the complexity of biological life and partly because the links between biodiversity and human needs are not always immediately obvious. Land use involves property rights, water quality and quantity can have immediate health or economic impacts, and air quality has short- and long-term health impacts. Biodiversity impacts are usually felt and seen in the longer term and are difficult to measure.

In many ways, assessing and protecting native plants and animals and their habitat is an integration of getting it right on land, air and water. That's a tall order, but an order that farmers and ranchers have a vital role in.

This issue of *Green Matters* covers some interesting developments. The Northern Leopard Frog Program involves on-the-ground efforts for the recovery of this threatened species in Alberta. The strategies to increase our northern pintail population are also putting ideals into action. The biodiversity monitoring activities are an important step to understanding where we are at and if our efforts are producing results. Monitoring will also be critical to the development of a successful Alberta Biodiversity Strategy. It is to agriculture's credit that we are active in these efforts, but there is a long way for all of us to go.

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# Tracking Alberta's Biodiversity

**Y**'ou have to measure it to manage it.' That adage applies as much to biodiversity as it does to our water, air and soil resources. So the Alberta Biodiversity Monitoring Program (ABMP) is taking on the task of tracking the province's living resources. The program will provide high quality, science-based information to help government and industry ensure that our biodiversity resources are managed sustainably.

Many government agencies and companies in various industrial sectors require information on biodiversity to meet the requirements of regulations, policies and other commitments. Until now, each organization has taken its own approach to biodiversity monitoring. To find a better system, a partnership of over 30 government, industry and research agencies is supporting development of the ABMP.

The Alberta Environmentally Sustainable Agriculture (AESA) Council is one of those agencies. "The information from the ABMP can be used to support our efforts in the same way as the data from AESA's own soil and water quality monitoring programs. With the ABMP data, AESA Council will be better able to provide advice to Alberta Agriculture, the Minister [and people in the agriculture industry] on how best to proceed on issues related to biodiversity," says Karen Cannon, AESA program manager.

She adds, "Agriculture, like other human activities, relies on ecosystem functions such as purifying water and cycling nutrients. Species within an ecosystem are interdependent. If we lose a species, how does that affect the ecosystem's functioning? People in agriculture are interested in helping to ensure that the species and habitat types here today will be around for future generations."

The ABMP's managing director Kirk Andries says, "The ABMP offers a standardized approach using scientifically rigorous protocols to monitor biodiversity at a regional or provincial scale. And the program is managed independently from both industry and government. So it provides objective, consistent, credible information, [while reducing duplication of effort and savings costs for users]." He adds, "It is a world-class



Courtesy of ABMP

program. There is not another program like it anywhere."

The ABMP's development started in 1997. First, leading scientists developed the monitoring protocols. Currently the prototype program is being tested. Operational start-up will begin in the spring of 2007.

The sampling system follows a province-wide grid with 1656 sampling sites. One-fifth of the sites will be monitored each year. "If you happen to have one of our points on your land and you're comfortable with giving us access to that land, you would see us every fifth year. In that year, we would come onto that land five times. ... When we visit a site, we are there for no more than a day. And when we leave, you wouldn't know that we had been there," Andries explains.

One of the ABMP's upcoming priorities is to consult with producer groups and other agricultural associations to make sure the program being built will satisfy their requirements. "If people want to set up a meeting, we'd be delighted to go and talk with them," says Andries. To arrange a meeting, call Andries at 780-417-3054. For more information about the ABMP, visit [www.abmp.arc.ab.ca](http://www.abmp.arc.ab.ca).



**AESA Program  
wins prestigious  
award!**

**T**he AESA Program was one of the proud winners at the 15th annual Emerald Awards ceremony in June!

Since its creation in 1997, the AESA Program has been developing and delivering collaborative initiatives for environmentally sustainable growth of Alberta's farm, ranch and agri-food processing industry. With AESA funding, municipalities, producer organizations, first nations groups, environmental agencies, agri-food processors and other agencies are finding practical, effective options to enhance environmental stewardship in agriculture.

Currently, AESA is working in partnership with 40 community-based groups in delivery of environmentally sustainable agriculture programs across Alberta. As a result of these extension efforts, there is increasing stewardship awareness and action by Alberta's farmers and ranchers. The AESA Program also supports water and soil quality monitoring to assess agriculture's impact on the environment.

The Emerald Awards, hosted by the Alberta Emerald Foundation, celebrate leadership in environmental excellence in many areas of life in Alberta. The AESA Program was one of five agriculture-related winners this year. The others were: Alberta Reduced Tillage LINKAGES; the Little Red Deer River Watershed Initiative; Lakeland College's student Enviro Club; and Dennis McKerracher (a pork producer and member of AESA Council).

"Agriculture producers have always understood the connection between their livelihood and the environment," says Doug Horner, Minister of Alberta Agriculture, Food and Rural Development. "The more we learn about taking care of the environment and about best management practices on-farm, the more effective and efficient our farms become."

For more information on the Emerald Awards, go to [www.emerald.foundation.ca](http://www.emerald.foundation.ca).



# Sowing the Seeds for an Alberta Biodiversity Strategy

The initial steps in developing a province-wide biodiversity strategy are underway. These steps are laying the foundation for a made-in-Alberta approach to sustaining our biodiversity.

The Interdepartmental Biodiversity Working Group is guiding these steps. This group, created in 2004, is composed of members from eight Alberta Government departments with land-related responsibilities and influences.

The group has several key tasks. One is to raise awareness and develop some shared perspectives on biodiversity across the Alberta Government. "We want to reach a point where biodiversity and notions around management and conservation of biodiversity become second nature for folks as they carry out their work," explains Ted Nason of Alberta Sustainable Resource Development, who chairs the group.

Another key task for the group is to plan the process for developing a provincial biodiversity strategy. The need for such a strategy has arisen in part due to Alberta's rapid economic development and growing population, which are putting increasingly intense pressures on our natural resources including biodiversity. Nason says, "We're realizing that we have to get better and more deliberate with the way we manage our living resources." As well, a biodiversity strategy would be a valuable

tool to help guide the Alberta Government in meeting its legislated responsibilities and policy commitments for managing biodiversity.

Public consultations with Albertans will be a major element in creating the strategy. "It really comes down to Albertans being able to develop their own vision of what sound biodiversity management means to them," says Nason.

Lori Enns, who represents Alberta Agriculture, Food and Rural Development on the group, outlines the group's preliminary plans for consultations with the public and other stakeholders. She says, "The intent is to integrate some of the public consultations for development of the biodiversity strategy with consultations undertaken as part of the Alberta Land Use Framework. Because biodiversity is so strongly linked to land use and landscape management, it really is a nice fit." The Land Use Framework consultations are expected to take place over the next two years. (For more information on the framework, see the Fall 2005 issue of Green Matters.)

To help stimulate and inform the dialogue on biodiversity with Albertans, the group recently published the Biodiversity Basics factsheet series. The first factsheet, Characteristics and Values, outlines what biodiversity is and why it is important, with Alberta examples. The second one, Challenges and Issues, discusses



Courtesy of Ducks Unlimited Canada

such issues as the impacts of Alberta's rapid growth and development on biodiversity, and the challenges in addressing these issues. Actions and Opportunities, the third factsheet, describes examples of actions that individuals, landowners, community groups, businesses and other organizations are already taking to help maintain Alberta's biodiversity.

For copies of the Biodiversity Basics factsheets, contact Ted Nason (phone: 780-644-5742; email: [ted.nason@gov.ab.ca](mailto:ted.nason@gov.ab.ca)). A companion publication to these factsheets is Biodiversity Perspectives, which can be downloaded from [www.keewatin.ca](http://www.keewatin.ca).

## New biodiversity tool for producers coming soon

The biodiversity self-assessment tool will be easy and enjoyable plus raise awareness of biodiversity and how you can enhance it," says Murray Klutz of Ducks Unlimited Canada (DUC). "It literally takes an hour and a half to walk about the farm with your family and evaluate the biodiversity strengths and challenges on your operation."

Klutz is a member of a six-person team from Alberta Agriculture, Food and Rural Development, Agriculture and Agri-Food Canada, and DUC working on this guide. He notes, "There are certainly professionals who can help you assess and enhance wildlife

habitat and biodiversity on your land, but we think there's value in a precursor step of a self-assessment. You can begin to learn about some of the biological and ecosystem interaction concepts, identify things you're already doing that are very good – because often people, without consciously thinking about it, are providing for a diversity of species on their operation – and look for opportunities to improve biodiversity."

The tool will complement the Environmental Farm Plan (EFP) program. That program provides a voluntary, confidential self-assessment process for producers to evaluate the environmental

risks and strengths in their operations. In the latest edition of the EFP workbook, a question has been added to one of the final chapters that specifically asks participants about biodiversity assessment, planning and implementation on their operation.

Klutz explains, "We see this [question] working as a direct call to action as you're nearing completion of the workbook. And it will be an easy call to action because you're going to receive the biodiversity self-assessment tool during the EFP process."

The team hopes to have the guide finalized for this fall.



# Making Alberta More Leopard Frog-Friendly

**T**he northern leopard frog is a great example of the biodiversity that is around us and enriches our lives,” says Kris Kendell of the Alberta Conservation Association (ACA). “Leopard frogs are very large, very charismatic, and have beautiful colours. I think it would be a pretty unfortunate day if no one in Alberta could observe one of these creatures.”

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“Some places that had healthy frog populations as recently as 2000 still seem to be losing frogs.”

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Kendell is a member of the Alberta Northern Leopard Frog Recovery Team. This multi-stakeholder team was created in 2004, when the leopard frog was confirmed as a Threatened species under Alberta’s Wildlife Act. Alberta Fish and Wildlife Division (AFWD) is the lead agency for the team, and team members include representatives from several government departments, conservation agencies and other stakeholders, including the agriculture sector. The ultimate goal of the effort is ‘to achieve well distributed, self-sustaining populations of leopard frogs throughout their historical range in Alberta.’ The team is now guiding the implementation of its first five-year Recovery Plan.

Once common in central and southern Alberta, leopard frogs suffered a dramatic decline in numbers and range in the late 1970s and early 1980s. They have not recovered since. Some of the possible causes of the decline include habitat loss, habitat alteration and disease.

“Probably the toughest aspect [of the recovery effort] is we really don’t know why the frogs are disappearing. If we knew exactly what the problem was, then it would probably be fairly easy to fix. ...Without that knowledge we’re working in a bit of a vacuum. But we have decided that we can’t let that hold us up trying to do management. If we try something and it’s not working, then we’ll try something else,” says Dr. David Prescott of AFWD, who leads the team.

The first step in implementing the Recovery Plan was a province-wide leopard frog inventory in 2005. Prescott says, “[The inventory showed that] we still continue to lose frogs in many parts of Alberta. Some places that had healthy frog populations as recently as 2000 still seem to be losing frogs.”

Another important action under the plan is to reintroduce the frogs into parts of their former range. This summer, field staff are identifying water bodies with good conditions for eggs and tadpoles so eggs can be moved into these areas in 2007. As well, ACA is working on a two-year study initiated in 2004 on the genetics of leopard frogs

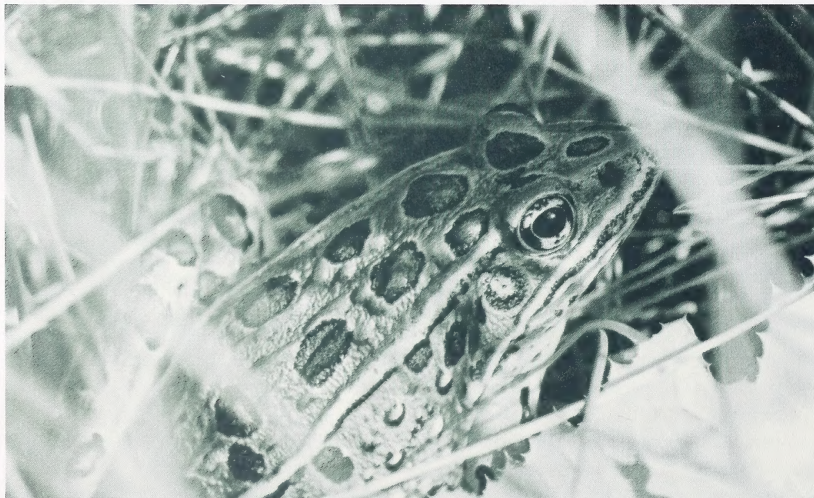
from different parts of Alberta. Kendell explains, “Basically we want to know where we can move egg masses without polluting one leopard frog population with different genetics from another leopard frog population and to make sure the eggs we collect are genetically adapted to live in the environments we want to move them to.”

Working with agricultural producers is a vital component of the effort. Many of the remaining frogs as well as good frog habitat occur on grazing land, especially native pastures with wetlands. During the 2005 inventory and this year’s work to identify good habitat, field staff have encountered many “frog-friendly” landowners, notes Kendell. So this summer the team is starting a public awareness initiative and looking into the possibility of beginning a few pilot projects.

Kendell explains, “We primarily want to make [landowners and land managers] more aware of leopard frogs and what some of their habitat needs are and what makes them happy. And, for a few important leopard frog sites, we hope to talk with the landowners to see what the possibilities are for implementing some stewardship opportunities on their property. It’s a very cooperative process. The landowner is in charge and we work with them.”

Two key things that make leopard frogs happy are good water quality and healthy riparian vegetation. If cattle have direct access to a water body, they tend to trample the streamside vegetation and pollute the water with manure and mud. So possible stewardship projects might include such things as fencing a wetland area and/or providing off-source watering for cattle. Prescott notes, “We are really talking about projects that will improve water quality, and good water quality is good for frogs and for cows.”

Producers can also help with monitoring by letting the team know if they see leopard frogs on their land. To submit a sighting, send an email to [leopard.frog@gov.ab.ca](mailto:leopard.frog@gov.ab.ca). As well, producers and other amphibian-friendly people can submit sightings of leopard frogs or any of the province’s nine other amphibian species to the Alberta Volunteer Amphibian Monitoring Program, notes Kendell, who coordinates that monitoring program. For more information, visit [www.ab-conservation.com/frog/monitoring](http://www.ab-conservation.com/frog/monitoring), call 1-877-777-FROG (3764), or send an email to [Kris.Kendell@gov.ab.ca](mailto:Kris.Kendell@gov.ab.ca).



Northern leopard frog: large, charismatic and beautiful.



# COUNCIL PROFILES



## Alberta Fish and Game Association

With its 100th anniversary coming up in 2008, the

Alberta Fish and Game Association (AFGA) has a long tradition of habitat stewardship. This volunteer-based, not-for-profit organization is the voice for hunters, anglers and other outdoor enthusiasts interested in the conservation and use of fish and wildlife and in habitat protection and enhancement.

AFGA president Randy Collins says, "The strength of the Association is our clubs and our membership. Right now, we have almost 15,000 members and over 100 clubs spread throughout the province from as far north as High Level to as far south as Pincher Creek and Medicine Hat." Each club has its own projects, ranging from bluebird houses to streambank fencing to bat

boxes to trout ponds to waterfowl nesting tubes.

"The members are the eyes and ears for all the province. So if there are issues or concerns, perhaps over habitat conservation or wildlife populations, they can bring those forward, and we as an association can take those concerns to [the relevant government agency]," notes Collins. "We take pride in making sure that what goes on outdoors is healthy fish, healthy wildlife, healthy water, healthy habitat. It's getting tougher and tougher to do that, especially in this day and age with Alberta's growing population and a growing footprint from forestry, oil and gas, recreation and other activities."

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The Association has several programs for rural landholders because much of the wildlife habitat in Alberta's prairie and parkland regions is in the care of private landholders. Collins says, "We

work with farmers and other people with land, showing them how they can make the place that they inhabit more habitable for all species that are out there."

These landholder programs include: the Parkland Stewardship Program, which works with landholders in Alberta's aspen parkland region to integrate habitat conservation as part of sustainable farm production; Operation Grassland Community, which works with farmers and ranchers to sustain a native prairie landscape that supports both wildlife and agriculture; and Habitat Steward and Heritage Farmstead, two landowner recognition programs.

The Wildlife Trust Fund is another AFGA program making important progress in conservation, says Collins. "Under our Wildlife Trust Fund, with donations from our members and AFGA clubs, and through partnerships with other organizations such as Ducks Unlimited, the Alberta Conservation Association, and the Nature Conservancy of Canada, we secure critical habitat with conservation easements. Throughout the province we have now secured nearly 27,000 acres of prime habitat."

Gerry Pittman represents the AFGA on AESA Council. For more information, visit [www.afga.org](http://www.afga.org).



## Agricultural Research and Extension Council of Alberta

Enhancing the sustainability and profitability of agriculture in Alberta is the aim of the Agricultural Research and Extension Council of Alberta (ARECA).

This provincial umbrella organization, created in 2003, represents all of the 15 applied research and forage associations in the province. By working together, the associations can coordinate their research, extension and information sharing, resulting in a broader scope and greater impact for their activities. Like ARECA itself, the member associations are non-profit, producer-run agencies.

In just three years, ARECA has come a long way from an idea to an effective organization. "We are no longer just little individual applied research associations representing a hundred producers in an area. We now represent thousands of producers across the entire

province. Now if industry or government wants to get information to or from producers or to influence them, they can come to one body," says Steve Kenyon, who is ARECA's vice chair and represents the Gateway Research Organization on ARECA's board.

In an exciting new development, Alberta Agriculture, Food and Rural Development recently allocated \$2.5 million to the organization for disbursing to its member associations. ARECA is currently working out the details of how the funds will be spent, but the overall plan is to use \$1.5 million for capital upgrades, \$700,000 for environmentally sustainable agriculture programming and \$300,000 for developing innovative approaches for extension programming.

The environmentally sustainable agriculture allocation will allow the member associations to expand their activities in this area. "The applied research [and forage] associations have been promoting environmental stewardship for many years. [For example,] we have the sustainable grazing mentorship program. We've partnered with Reduced Tillage LINKAGES on projects to improve all sorts of things. We are partnering with PFRA through the National

Farm Stewardship Program to evaluate beneficial management practices promoted by the Canada-Alberta Farm Stewardship Program and the Alberta Environmental Farm Plan Company," explains Kenyon.

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ARECA's producer-driven approach gives the organization a solid foundation for developing practical, objective information, notes Kenyon. "The number one thing that I like about ARECA is that the research we do and the answers we come up with are 100% unbiased." He also likes the focus on economic sustainability. He says, "Whenever we do an experiment, we always run the numbers on it after to see: did it work? and did you make money at it?"

ARECA is represented on AESA Council by Debra Lozinski, who is also the ARECA chair. For more information, visit [www.areca.ab.ca](http://www.areca.ab.ca) or phone the ARECA office at 780-416-6046.



# A Multi-Pronged Approach to Pintail Recovery

"When we look around for the root cause of the northern pintail's decline, it's here in the Canadian prairies, in our own backyard," says Dr. Karla Guyn of Ducks Unlimited Canada (DUC). This private, non-profit agency has created the Pintail Initiative, which aims to reverse the pintail's serious population decline.

In the mid-1950s, these elegant ducks were almost as common as mallards, with a population around 10 million. Drought conditions in the 1980s reduced the populations of many prairie-nesting ducks, including pintails. However, unlike most of these other ducks, pintails did not recover in the 1990s. In fact, the pintail population reached a record low of 1.8 million in 2002.

Pintails tend to prefer to nest in gently rolling landscapes with large, shallow wetlands. Since those landscapes are mainly found in the southern Canadian prairies, that's where most pintails nest. It's also where most of the decline in pintail numbers has occurred. So it's the target area for many activities under the Pintail Initiative.

Guyn has been studying pintails since 1994. "Pintails will nest in crop stubble more than any of the other dabbling ducks. Unfortunately for them, pintails are an early nesting species. They tend to arrive in the prairies in late March and start their nests in mid-April. Obviously if they are nesting in stubble fields in mid-April, the chances of them successfully hatching before a seeding operation goes through are pretty slim," she explains. And as more and more prairie farmers reduce or eliminate summerfallow in their rotations, nesting in stubble becomes even riskier.

"...the root cause of the northern pintail's decline is... in our own backyard."

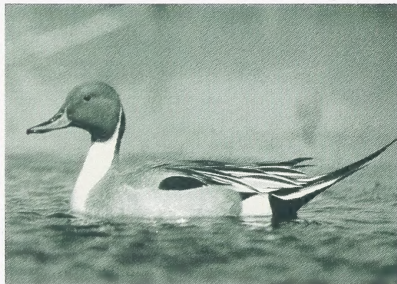
The Initiative includes such strategies as: working with farmers and ranchers to adjust agricultural practices in ways that enhance pintail habitat; securing wetlands and native prairie through agreements with landowners; and working towards more effective policies for landscape conservation.

To evaluate and refine the Initiative's habitat management efforts, DUC started a three-year study in 2005. "In this study, we are looking at the various habitats on the landscape to see which habitats pintails are choosing for nesting, and how many nests they hatch in those different habitats," says Guyn, who is one of the study's lead researchers.

The study encompasses a variety of habitats including those that DUC believes will improve pintail nesting success: winter cereal fields, hayland, tame pasture and native pasture. Guyn says, "Preliminary results from last year tend to confirm our initial hypotheses in that pintails do tend to select winter wheat and cropland in general at a much higher level than other ducks do. And, at least in last year's case, they typically have higher nest success in winter wheat fields than in any of the other habitats."

DUC is using a range of measures to encourage producers to adopt practices that improve pintail habitat. For example, DUC is supporting breeding research to improve winter wheat quality, cold tolerance and disease resistance. It has winter cereals agronomists who carry out extension activities. It has a Core Grower program where successful winter wheat growers share their experiences with other producers. And it is working on ways to improve winter wheat markets.

Although the continuing loss of prairie wetlands troubles Guyn, she does see some encouraging hints of a better future for pintails. Wetter conditions in the southern prairies in 2005 and 2006 have boosted pintail numbers to 3.3 million this year. As well, the number of acres in winter wheat and the number of acres converted from spring-seeded cropland to hay or pasture have been gradually increasing. Change is happening slowly, but at least it's going in the right direction.



Northern pintail drake

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Green Matters is the newsletter of the Alberta Environmentally Sustainable Agriculture (AESAC) Council. AESAC Council consists of representatives from Alberta's agriculture and food processing industry, environmental organizations and municipal, provincial and federal governments.

AESAC Council's vision is that Alberta has a thriving agriculture and food industry that is operating in an environmentally responsible manner. Its mission is to lead the agriculture and food industry in addressing environmental challenges. And its goal is to develop and deliver collaborative environmental stewardship initiatives that result in sustainable growth of Alberta's farm, ranch and agri-food processing industry.

The purpose of Green Matters is to provide a forum for discussion of environmental issues in Alberta's agriculture and food processing industry.

To subscribe to Green Matters, call 780-422-4385. Green Matters is also available online at [www1.agric.gov.ab.ca](http://www1.agric.gov.ab.ca).

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Alberta Environmentally Sustainable Agriculture Program

The Agricultural Policy Framework (APF) – A Federal-Provincial-Territorial Initiative